

ABNORMAL INFLORESCENCES OF ELAEOCARPUS PETIOLATUS.

In 1921 Mr. Burkill noticed an abnormality in the development of the flowers of a tree of this species growing in the Economic Garden. Some notes were made at the time by Mr. G. B. Deshmukh, who was then Field Assistant at the Gardens. The tree has again produced flowers, and an investigation of them shows a greater complexity in their abnormal features than Mr. Deshmukh records. The unusual points are a complex branching of the inflorescence, accompanied and accentuated by the production of buds in the axils of some or all of the floral organs, and the complete sterilisation of the flowers. The final result is an elaborate branch system bearing minute buds at the apices of its ultimate branchlets. There is some variation of these phenomena in different inflorescences, and an account of these is given below. It is probable that the abnormality is not caused by any stimulation due to insect attack, but is inherent in the nature of the individual tree.

The normal inflorescence of the species is a simple raceme, and some of those on the present tree approximate to this, while others are very much branched before any flowers are produced. The flowers on the less branched inflorescences are of normal size, but in the axils of some or all of the sepals are produced buds, each of which develops into a flower on a pedicel which may reach 4 or 5 cm. in length. The stamens are normal in appearance, but never bear pollen. The axis of the flower continues to grow out above the stamens to a length of 1 to 1.5 cm., carrying some of them, reduced in size, with it. No evidence of the presence of carpels has been observed, but the organs at the apex of the produced axis are too immature to be recognisable. The new flowers are smaller than the original one but behave in the same way, and Mr. Deshmukh records that the process may be repeated four times. During the present flowering very few buds of the third order have been seen, and none of the fourth order. The flowers of each order are smaller than those of the preceding.

The smaller flowers produced by the branchlets of the more complex inflorescences and, to some extent, those of the second and third orders above mentioned show a greater degree of abnormality. The first change is the presence of buds in the axils of petals as well as of sepals. In progressively smaller flowers, on smaller branchlets, additional petals, with or without axillary buds, replace stamens. These small petals are somewhat modified in form, having a less lacinate tip and a few reddish glandular hairs like those on the margins of the sepals. In the smallest flowers of which the organs are not too small to be distinguishable all the stamens (reduced in number) have been replaced by modified petals, and some of these, with axillary buds, are carried above the flower by the continued growth of the axis. When the sepals fall,

the remains of such a flower form a rather modified branch-system of the already complex inflorescence. On the smallest branchlets the reduction in size of the flowers is so great that the floral organs are not differentiated sufficiently to be recognisable.

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ORCHID NOTES.

A NEW MALAYAN ORCHID,—*DENDROBIUM CITRINO-CASTANEUM*.

This orchid was brought to me by Mr. Poul Feddersen as an epiphyte which he had found near Johore Bahru. It is a typical *Dendrobium* of the section *Sarcopodium*, falling, in Dr. F. Kränzl's arrangement of the species of *Sarcopodium* (Engler's *Pflanzenreich*, IV, 50, II B. 21, p. 321), near to *Dendrobium elongatum*, Lindl., but being quite distinct from it, and not possessing the affinity to the section *Desmotrichum* which that species has. As one of the *Sarcopodiums* with rather numerous flowers, and these prettily coloured, it may not be unworthy of cultivation. The duration of the flowers, however, is unknown to me, and possibly it is a little exacting in the conditions of flowering.

Dendrobium (Sarcopodium) citrino-castaneum. *Planta* epiphytica. *Rhizoma* repens, 5 mm. diametro, ab initio vaginis tubulosis pallide virescentibus obtectum, maturitate atro-castaneum, inter pseudobulbos ad 5 cm. longum. *Pseudobulbi* conoidei, glaberrimi, politi, virides, ad 6 cm. longi, ad 2.5 cm. diametro, ex bracteis initio pallide virescentibus, deinde scariosis et atrocastaneis, maturitate liberati, bifoliati. *Folia* ovato-elliptica, ad 14 cm. longa, ad 3.5 cm. lata, glaberrima sed vix polita, firma, apice rotundata vel obtusa, mucronulata, nervis 20 vel ultra inconspicuis, supra saturate viridia, infra pallidiora. *Corymbus* pluriflorus, conspicuus, floribus 6—10: pedicelli cum ovariis 2-4 cm. longi: bracteae ovato-lineares. *Sepala* citrina: dorsale ad 18 mm. longum, 5 mm. latum, lanceolatum, acutum, 7-nerve: lateralia æquilonga, mentum 6 mm. profundum formantia, ex eodem triangulari-lanceolata, acuta, 6-nervia, nervis 2 supra et nervis 2 infra medium. *Petala* citrina, 16 mm. longa, sepalis paullulo minora, angustiora, concoloria, 5-nervia. *Labellum* ex basi 1.5 mm. lata trilobatum, castaneum; limbus fere planus, crassus, 5 mm. longus: lobus medius exacte linguiformis, crassiusculus, supra sulcatus, 8 mm. longus; lobi laterales oblique oblongi, tenues, apice rotundati atque minutissime denticulati. *Gynostemium* 5 mm. longum.

JOHORE. Prope Johore bahru, *P. Feddersen*.

DENDROBIUM CALLIBOTRYS, Ridl.

From Gunong Pulai in Johore Mr. G. A. Best recently brought into the Botanic Gardens, Singapore, an orchid which on flowering